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Committee of Experts on the Transport of Dangerous Goods and on the Globally Harmonized System of Classification and Labelling of Chemicals

Sub-Committee of Experts on the Transport of Dangerous Goods

Forty-fifth session
Geneva, 23 June – 2 July 2014
Item 4 (b) of the provisional agenda
Listing, classification and packing: classification inconsistencies (application of criteria versus dangerous goods list)

Classification of ammonia solutions

Transmitted by the expert from Fertilizers Europe[1]

Introduction

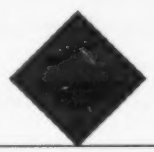
1. There are four UN entries related to ammonia and its aqueous solutions (UN 1005, UN 3318, UN 2073 and UN 2672). There are inconsistencies in the classification of one of the entries, UN 2073.

2. This paper identifies the inconsistencies and makes proposal to remove the same.

Discussion

3. The current entries for anhydrous ammonia and three ammonia solutions are presented in the table below:

[1] In accordance with the programme of work of the Sub-Committee for 2013-2014 approved by the Committee at its sixth session (refer to ST/SG/AC.10/C.3/84, para. 86 and ST/SG/AC.10/40, para. 14).

UN No	Name and Description	Class or Division	Subsidiary Risk
1005	AMMONIA, ANHYDROUS		
3318	AMMONIA SOLUTION, relative density less than 0.880 at 15°C in water, with more than 50% ammonia		
2073	AMMONIA SOLUTION, relative density less than 0.880 at 15°C in water, with more than 35% but not more than 50% ammonia		
2672	AMMONIA SOLUTION, relative density between 0.880 and 0.957 at 15°C in water, with more than 10% but not more than 35% ammonia		

4. Inconsistency between the ammonia solutions classifications

(a) Ammonia Solution (UN 3318, ammonia content >50%) is classified as 2.3 toxic gas, with the subsidiary risk as corrosive;

(b) Ammonia Solution (UN 2672, ammonia content between 10 and 35%) is classified as corrosive;

(c) Ammonia solution UN 2073 (ammonia content between 35 and 50%) is not classified as corrosive or a toxic gas. Its current classification as Division 2.2 Non-flammable, non-toxic gas, appears to be illogical and does not correctly reflect its potential hazards.

5 Of particular relevance is the criterion in which Division 2.2 is assigned if the condition under paragraph 2.2.2.1 (b) (iii) is met. That condition states: "do not come under other divisions." As the ammonia solutions, UN Nos. 3318 and 2672, are classified in the Division 2.3, Toxic gases, UN 2073 should not be placed under Division 2.2, but in Division 2.3 due to its potential to release ammonia vapours, with the subsidiary risk as corrosive.

Proposal

6. It is proposed that the classification of ammonia solution of UN 2073 be changed from Division 2.2 Non-flammable, non-toxic gas, to Division 2.3 Toxic gas, with the subsidiary risk as corrosive. This will be consistent with its properties and classification of other ammonia solutions. The following table summarises the overall situation resulting from the proposed classification.

UN No	Name and Description	Class or Division	Subsidiary Risk
1005	AMMONIA, ANHYDROUS		
3318	AMMONIA SOLUTION, relative density less than 0.880 at 15°C in water, with more than 50% ammonia		
2073	AMMONIA SOLUTION, relative density less than 0.880 at 15°C in water, with more than 35% but not more than 50% ammonia		
2672	AMMONIA SOLUTION, relative density between 0.880 and 0.957 at 15°C in water, with more than 10% but not more than 35% ammonia		